

A Variable Speed Integrated Planer Motor Assembly

Abstract

The integrated planer motor assembly consists of two parts:

- a. A integrated planer stator assembly that combines the motors stator coils, biased MR sensors and the motor's variable speed control IC into a single part using advanced high volume semi-conductor manufacturing processes;
- b. A planer rotor assembly having a precise planer surface containing the high energy permanent magnet and the ceramic ferrite return structure.

The rotor assembly is assembled to the stator assembly using a precision washer to establish the motors small and precise air gap thus maximizing magnetic flux density.